UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MAX HARRY WEIL, JOE BISERA, CLAYTON YOUNG
and WANCHUN TANG

Appeal No. 2005-2625
Application No. 09/678,616

ON BRIEF

Before FRANKFORT, McQUADE and BAHR, Administrative Patent Judges.

McQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Max Harry Weil et al. appeal from the final rejection of claims 15 and 16, the only claims pending in the application.

THE INVENTION

The invention relates to an apparatus for applying compressions to the chest of a patient to stimulate blood circulation. Claims 15 and 16 read as follows:

15. Apparatus for applying compressions to the chest of a patient to stimulate blood circulation, comprising:

an energized compressor assembly which includes an actuator and a source of pressured fluid;

a torso wrap that couples to said actuator and that wraps to the back of the patient, so downward forces of the piston[1] against the patient's chest are withstood by upward forces applied to the patient's back;

said actuator includes a cylinder which has an inside surface and a piston with a plurality of telescoping piston parts that telescope in one another and that are exposed to pressured fluid in said cylinder, including an upper piston part that fits closely in said cylinder and a lowermost piston part, and including a pressing member on a lower end of said lowermost piston part for pressing against the patient's chest;

said lowermost piston part having a lower piston inside surface which is exposed to said pressured fluid and which has at least half the diameter of said inside surface of said cylinder.

16. Apparatus for applying compressions to the chest of a patient to stimulate blood circulation, comprising:

an energizable compressor assembly which includes an actuator that has a vertical axis that extends perpendicular to the patient's chest, and a pressing member for pressing against the patient;

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[1] This reference to "the piston" lacks a proper antecedent basis, an informality which should be corrected in the event of further prosecution before the examiner.

a torso wrap that couples to said actuator and that wraps to the back of the patient, so downward forces of the pressing member against the patient's chest are withstood by upward forces applied to the patient's back;

a saucer-shaped stabilizer that has a center fixed to said actuator and a curved radially outer portion that extends substantially completely around the axis and that rests against the patient's chest.

THE PRIOR ART

The references relied on by the examiner to support the final rejection are:

Barkalow	3,610,233	Oct. 05, 1971
Mills, Jr. (Mills)	3,978,854	Sep. 07, 1976
Woudenberg et al. (Woudenberg)	4,664,098	May 12, 1987
Waide et al. (Waide)	5,399,148	Mar. 21, 1995
Cantrell et al. (Cantrell)	6,174,295	Jan. 16, 2001

THE REJECTIONS

Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Woudenberg in view of Barkalow and Mills.

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Waide in view of Cantrell.

Attention is directed to the main and reply briefs (filed May 27, 2004 and November 23, 2004) and the final rejection and answer (mailed December 19, 2003 and September 22, 2004) for the respective positions of the appellants and examiner regarding the merits of these rejections.

DISCUSSION

I. The 35 U.S.C. § 103(a) rejection of claim 15 as being unpatentable over Woudenberg in view of Barkalow and Mills

Woudenberg discloses a cardiopulmonary resuscitation device designed to apply intermittent compressions to a patient's breast bone. The device 10 comprises a mounting means 11 adapted to be placed on the breast bone, a pneumatically operable pressing means 12 in the form of a bellows 60 disposed on the mounting means, a surface 13 on the lower end of the bellows for contacting the breast bone, valving means 14 for periodically linking the bellows to a source of compressed gas 15, and a securing means 17 including an inelastic webbing belt which is attached to the mounting means to provide complete encirclement around a patient's chest.

As conceded by the examiner (see page 2 in the final rejection), the Woudenberg device does not respond to the limitations in claim 15 relating to the cylinder and the upper and lowermost piston parts. The corresponding structure in the

Woudenberg device is the flexible bellows 60. The examiner's reliance on Barkalow and Mills to overcome this deficiency is not well founded.

Barkalow discloses a cardiac resuscitator 11 which is similar in many respects to the resuscitation device disclosed by Woudenberg. The compression arrangement in the Barkalow apparatus includes a pneumatically operable cylinder 13 and piston 16.

Mills discloses a demand regulator 12' for admitting a supplemental flow of oxygen into a resuscitator 100. The resuscitator includes a normally closed tilt valve assembly 32' for controlling the flow of the oxygen, a resilient diaphragm 44' which is drawn into contact with the tilt valve assembly to open it in response to selected pressure variations in a patient's breathing pattern, and an actuator 120 for manually pressing the diaphragm into contact with the tilt valve assembly. The manual actuator comprises a plunger 128 and a spring-biased piston 144 telescopically mounted on the end of the plunger. The telescopic relationship between the piston and plunger is a safety feature which allows the diaphragm to move out of contact with the tilt valve assembly against the spring-bias of the piston even though the plunger remains fully depressed. This cuts off the flow of

oxygen when the pressure within the resuscitator rises above a certain level (see column 5, line 67, through column 6, line 11)

The examiner submits that it would have been obvious "to substitute Woudenberg's extendable bellow[s]-shaped actuator with a cylinder including telescopic piston parts as taught by Barkalow and Mills so that the extension length of the piston could be selectively controlled" (final rejection, page 3).

Although Barkalow arguably would have suggested replacing Woudenberg's flexible bellows with a conventional piston-cylinder arrangement, Mills would not have suggested forming the piston component of such an arrangement with upper and lowermost piston parts as recited in claim 15. The telescopic plunger-piston safety arrangement disclosed by Mills has little, if any, relevance to the compression actuating mechanisms disclosed by Woudenberg and Barkalow. The only suggestion for combining the widely disparate teachings of Woudenberg and Barkalow on the one hand and Mills on the other hand stems from hindsight knowledge impermissibly derived from the appellants' disclosure.

Accordingly, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of claim 15 as being unpatentable over Woudenberg in view of Barkalow and Mills.

II. The 35 U.S.C. § 103(a) rejection of claim 16 as being unpatentable over Waide in view of Cantrell

Waide discloses a cardiac massage device which is fairly described in the following passage from the reference:

> FIG. 1 illustrates a depressor means generally indicated at (1) secured above the sternum of a patient. A reciprocating block (2) is in place on the sternum and is retained in position by support means comprising support legs (3), support plate (4) and a flexible band (5) encircling the chest of the patient. The support legs are sprung so that when the flexible band is tightened around the chest, the support legs help to maintain residual pressure on the sternum. The flexible band may be textured on the under surface or may be inflatable to further secure the depressor means in correct position.
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> FIG. 2 depicts the depressor means of FIG. 1. The reciprocating block (2) extends through the support plate (4) into a depressor cylinder (6) in a piston-like arrangement for reciprocal movement within the cylinder. The block is operated by pressure through a pressure line (not shown) removably connected at (7). The depressor cylinder is supported on the support plate (4) by bolts (8). If necessary, operation of the depressor means may be manually overridden by application of pressure to a hand block (10) on the depressor cylinder. During manual operation, the decompression stroke of the depressor cylinder is facilitated by optional return springs (9).

> To secure about a patient, the depressor means is placed on the chest of the patient with the block against the sternum, and the flexible strap then tightened about the chest [column 2, line 64, through column 3, line 23].

The examiner acknowledges (see page 3 in the final rejection) that the Waide apparatus does not respond to the limitations in claim 16 requiring a saucer-shaped stabilizer having a center fixed to the actuator and a curved radially outer portion extending substantially completely around the axis of the actuator. The corresponding structure in the Waide apparatus takes the form of support legs 3. The examiner's reliance on Cantrell to cure this shortcoming is unsound.

Cantrell discloses a cardiopulmonary resuscitation device comprising a chest-positioner pad unit 20, a compression device 40, an assembly 60 including a dorsal strap 70 for securing the compression device to a patient, a control system 50 and a recoil spring 90, these elements being arranged as shown in Figure 1. Of particular interest is the construction of the chest-positioner pad unit 20:

> [r]eferring to FIGS. 3 and 4, chest-positioner/pad unit 20 generally comprises a [rectangular] rim 21, elastic sheet 22, sternal pad 23, and socket 27. The primary functions of the chest-positioner/pad unit 20 are: (1) to protect the thorax 13 including the ribs 15, costal cartilages 16, sternum 14, and internal organs (not shown), and (2) to provide a stable platform for the compression device 40 [column 3, lines 32-38].

In proposing to combine Waide and Cantrell to reject claim 16, the examiner contends that

> Cantrell teaches an analogous device including a vertical axis (see fig. 2) further including a saucer shaped stabilizing component (20) (saucer-shaped does not necessarily imply round), having a curved outer radial portion (corners are rounded), that extends substantially completely around the axis. It would have been obvious to one having ordinary skill in the art at the time of invention to substitute the stabilizer device of Cantrell for the stabilizer device of Waide in order to distribute forces of the actuator and provide greater stability [final rejection, page 3].

The examiner, however, has failed to advance any authority for the proposition that Cantrell's multi-part, rectangularly shaped chest-positioner pad unit 20 embodies, or is suggestive of, a saucer-shaped stabilizer having a center fixed to its actuator and a curved radially outer portion extending substantially completely around the axis of the actuator as recited in claim 16. The term "saucer" is commonly understood to mean, for example, "1. A small, shallow dish having a slight circular depression in the center for holding a cup. 2. An object similar to a saucer in shape" (The American Heritage Dictionary, Second College Edition (Houghton Mifflin Co. 1982)). Given this conventional meaning, which is fully consistent with the appellants' disclosure, one of ordinary skill in the art would not have viewed Cantrell's pad unit 20 to be a saucer-shaped stabilizer of the sort recited in claim 16.

Hence, the combined teachings of Waide and Cantrell do not justify the examiner's conclusion that the differences between the subject matter recited in claim 16 and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. Consequently, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of claim 16 as being unpatentable over Waide in view of Cantrell.

SUMMARY

The decision of the examiner to reject claims 15 and 16 is reversed.

REVERSED

CHARLES E. FRANKFORT)
Administrative Patent Judge)
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JOHN P. McQUADE) BOARD OF PATENT
Administrative Patent Judge) APPEALS
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